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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,611	09/26/2001	Eisuke Kanzaki	JP920000194US1	7836

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EXAMINER

MASON, DONNA K

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/682,611

Applicant(s)

KANZAKI ET AL.

Examiner

Donna K. Mason

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed December 10, 2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 5 recites the limitation "the course" in line 3. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 5 recites the limitation "counting the number of data to be changed in the course from data to be transmitted to data transmitted immediately before for each group " in lines 2-4. This limitation lacks clarity because it is unclear from this limitation, what applicant regards as its invention. For examination purposes this limitation has been interpreted as --counting the number of data to be changed--.
7. Dependent claims 6-10 inherit the deficiencies of independent claim 5.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 5, and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,553,445 to Drapkin, et al. ("Drapkin").

With regard to claims 1, and 11-13, Drapkin discloses a data transfer device and method, the data transfer device including: a transmitting block (Fig. 2, item 202), a receiving block (Fig. 2, item 208), and a plurality of signal lines (Fig. 2, item 210); where data is transferred from the transmitting block through the plurality of signal lines to the receiving block, the transmitting block includes: a determination unit for dividing said signal lines into a plurality of groups (Fig. 3, bit group 1 and bit group 2; column 5, lines

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29-53) and determining either inversion or non-inversion of data to be transferred regarding data transferred through said signal lines of each group (Fig. 3, item 312; column 5, lines 39-53); an inversion unit (Fig. 2, item 216) for inverting the data to be transferred for the group determined to be subjected to data inversion; and a transmission unit (Fig. 2, item 218) for transmitting the data through the signal lines, and the receiving block includes: a receiving unit (Fig. 2, item 222) for receiving the data transferred through the signal lines; and a decoding unit (Fig. 2, item 220) for returning, among the data received by the receiving unit, the data of the group having been subjected to the data inversion by the inversion unit to an original state. (*See generally*, column 3, lines 8-67 to column 4, lines 1-67).

With regard to claims 2 and 3, Drapkin discloses the data transfer device, where the transmitting block further includes an inversion signal output unit for outputting a signal indicating completed inversion in synchronization with data of the group, regarding the group having been subjected to the inversion by the inversion unit (column 6, line 67 to column 7 lines 1-3). Drapkin further discloses the data transfer device, where the determination unit counts the number of data to be transferred (Fig. 3, item 306; column 5, lines 29-39), which is different from data transferred immediately before for each group, and the determination unit selects a combination of either inversion or non-inversion for each group based on a result of the counting in order to minimize a sum total of changes of data for all the groups (Fig. 3, item 312; column 5, lines 39-53).

With regard to claim 5, Drapkin discloses a data transmitter (Fig. 2, item 202) for transmitting data of predetermined bits, including: a counting circuit for dividing data into a plurality of groups, and counting the number of data to be changed (Fig. 3, item 306; column 5, lines 29-39); a selection circuit for selecting either inversion or non-inversion for the data to be transmitted for each group (Fig. 3, item 312; column 5, lines 39-53); and an inversion circuit (Fig. 2, item 216) for inverting the data to be transmitted for the group, of which the data is determined to be inverted by said selection circuit.

With regard to claims 6-10, Drapkin discloses a data transmitter, where the selection circuit selects either inversion or non-inversion of the data to be transmitted for each group, based on whether the number of data to be changed counted for each group by the counting circuit is in a predetermined range or not (column 5, lines 29-53).

Therefore, Drapkin reads on the invention as claimed.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drapkin in view of U.S. Patent No. 5,781,742 to Asano, et al. ("Asano").

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Drapkin discloses a device including: a driver (Fig. 2, item 202) for driving a display panel; a controller (Fig. 2, item 208) for controlling the drivers; and a predetermined number of signal lines wired between the drivers and the controller (Fig. 2, item 210), where the controller includes: a determination unit for determining whether inversion should be performed or not for each group, regarding digital signals to be transferred through said signal lines divided into a plurality of groups (column 5, lines 29-53; Fig. 3, bit group 1, bit group 1, and item 312); an inversion unit (Fig. 2, item 216) for inverting the digital signals to be transferred for the group determined to be inverted; and a transmission unit (Fig. 2, item 218) for transmitting the digital signals to the signal lines, and each of the drivers includes: a receiving unit (Fig. 2, item 222) for receiving the digital signals transferred through the signal lines; and a decoding unit (Fig. 2, item 220) for returning, among the digital signals received by the receiving unit, a digital signal of the group having been subjected to digital signal inversion by the inversion unit to the original signal. (See *generally*, column 3, lines 8-67 to column 4, lines 1-67).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Takashima with Drapkin. The suggestion or motivation for doing so would have been to provide an output device, which can effect a substantial reduction in peak current flowing through power supply pins and can suppress the fluctuations of power supply voltages due to parasitic inductance associated with the power supply lines even if a plurality of output lines are switched at the same time (column 3, lines 45-55).

Drapkin does not expressly disclose the device being a display device, as claimed. However, Asano discloses a display device (column 3, lines 55-65).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Asano with Drapkin. The suggestion or motivation for doing so would have been to effectively reduce EMI radiation without requiring the use of filters, etc., even under conditions where EMI radiation most easily occurs, such as at an LCD video interface (column 2, lines 47-51).

Therefore, it would have been obvious to combine Asano with Drapkin to obtain the invention as specified in claim 4.

12. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drapkin in view of U.S. Patent No. 5,931,927 to Takashima.

As described above, with regard to the 35 U.S.C. 102(e) rejection, Drapkin discloses all the features of independent claim 13. However, Drapkin does not expressly disclose the data transfer method as further recited in dependent claims 14 and 15.

With regard to claims 14 and 15, Takashima discloses the steps of: examining combinations of two states of data inversion and non-inversion for each group; and selecting a combination having the smallest number of data to be changed, when a result of said examining step shows that there are a plurality of combinations for minimizing a sum total of changes of data of all the groups. Takashima also discloses the steps of counting for each group an number of data, calculating data variations for

each group, and selecting a combination for minimizing a sum total of changes of data of all the groups. (See *generally*, column 10, lines 27-67 to column 11, lines 1-4).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Takashima with Drapkin. The suggestion or motivation for doing so would have been to provide an output device, which can effect a substantial reduction in peak current flowing through power supply pins and can suppress the fluctuations of power supply voltages due to parasitic inductance associated with the power supply lines even if a plurality of output lines are switched at the same time (column 3, lines 45-55).

Therefore, it would have been obvious to combine Takashima with Drapkin to obtain the invention as specified in claims 14 and 15.

Conclusion

13. A shortened statutory period for reply is set to expire THREE MONTHS from the mailing date of this communication. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this communication.

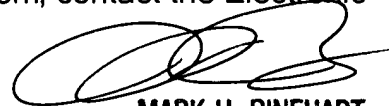
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna K. Mason whose telephone number is (703) 305-1887. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on (703) 305-4815. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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